What were the outcomes of the prior phase?

1. What did I plan to do?
   1. Make final decisions on software design
   2. Get a prototype of a control panel button press to work with the Pi3
   3. Get code working to have the Pi3 communicate with the Command Station
   4. Provide timing results of the prototype control panel
   5. Get code working to have GPIO interrupts functioning on a Pi
   6. Review team’s documentation provided on EDGE and available to me
   7. Provide updated information on EDGE for documentation and presentation purposes
   8. Go through my responsibilities for this semester
   9. Review team members responsibilities for the semester
   10. Go through expected software behavior of the overall system
   11. Maintain an organize file structure for EDGE and the Google Drive used by the team
   12. Gather information about / for the project
   13. Become familiar with the project
   14. Learn about the current system the RIT Model Railroad Club has set up in their club space

2. What did I actually do?
   a. Successfully got code working to get the Pi3 to turn on LEDs when buttons are pressed on the prototype control panel
   b. Successfully got code working to have python code send commands to the Command Station and move a component on the test bench
   c. Provided timing results of button presses and how long it takes for the code to properly decipher what action needs to be done
   d. Edited the EDGE page to reflect the updated information
   e. Edited EDGE to reflect the chosen software design
   f. Reviewed documentation provided on EDGE
   g. Discussed further software design with team members and customer
   h. Provided help to other team members for editing EDGE
   i. Discussed software data structures to use for software implementation with team members
   j. Discussed team members responsibilities for the semester
   k. Completed my 3 Week Plan
   l. Provided information for Problem Tracking document
   m. Gathered information about how the RIT Model Railroad Club model railroad system works / operates
   n. Gained better understanding of the overall project scope
3. What did I learn? How were plan and reality different?
   a. Fall is the season of illness and being sick prevents progress being made for the project, which then causes tasks to be either pushed back or to be completed by other team members.
   b. The chosen design may not solve problems as easily as initially thought and will need to be updated.
   c. Some limitations will need to be clear to both the team and the customer to have a better understanding of what can actually be accomplished during this semester.
   d. Having a team member remote may be more difficult to get tasks done, especially if the team member is the project manager.
   e. A design is hard to come up with when other team members are not participating in design discussions.
   f. How the team functions / works together under different circumstances.
   g. The process it takes to gather the information needed to solve a problem.
   h. Plans may not always go as planned and the team should be prepared to discuss the situation and come to a solution / compromise.
   i. There is a lot more information needed to get a full grasp of the project than initially given, and more information keeps being discovered.
   j. Learned about what parts of the project I will be providing contribution to.
Team level goal for next phase

By the end of the Systems Level Build, Test, and Integrate phase, we plan to complete the following phase-specific deliverables while further understanding the design, limitations, and requirements against customer satisfaction.

<table>
<thead>
<tr>
<th>Task Name</th>
<th>Duration</th>
<th>Start</th>
<th>Finish</th>
<th>Resource Names</th>
</tr>
</thead>
<tbody>
<tr>
<td>3 Systems Level Build, Test, and Integrate</td>
<td>16 days</td>
<td>Tue 10/8/19</td>
<td>Tue 10/29/19</td>
<td>Team</td>
</tr>
<tr>
<td>3.1 Finalize testing</td>
<td>3 days</td>
<td>Tue 10/8/19</td>
<td>Thu 10/10/19</td>
<td>Denisee/Rui</td>
</tr>
<tr>
<td>3.1.1 Confirm tests with requirements</td>
<td>3 days</td>
<td>Tue 10/8/19</td>
<td>Thu 10/10/19</td>
<td>Denisee/Rui</td>
</tr>
<tr>
<td>3.1.2 Reevaluate and modify design if needed</td>
<td>3 days</td>
<td>Tue 10/8/19</td>
<td>Thu 10/10/19</td>
<td>Denisee/Rui</td>
</tr>
<tr>
<td>3.2 Create user instruction documents for open source component</td>
<td>9 days</td>
<td>Thu 10/10/19</td>
<td>Tue 10/22/19</td>
<td>Team</td>
</tr>
<tr>
<td>3.2.1 Format BOM to include materials needed</td>
<td>9 days</td>
<td>Thu 10/10/19</td>
<td>Tue 10/22/19</td>
<td>Rui</td>
</tr>
<tr>
<td>3.2.2 Format link to download software</td>
<td>9 days</td>
<td>Thu 10/10/19</td>
<td>Tue 10/22/19</td>
<td>Denisee/Derek</td>
</tr>
<tr>
<td>3.2.3 Include hardware schematics for user self build</td>
<td>9 days</td>
<td>Thu 10/10/19</td>
<td>Tue 10/22/19</td>
<td>Kevin/Rui</td>
</tr>
<tr>
<td>3.3 Confirm all documentation is completed</td>
<td>3 days</td>
<td>Tue 10/22/19</td>
<td>Thu 10/24/19</td>
<td>Marianna</td>
</tr>
<tr>
<td>3.4 Create Phase Gate Powerpoint</td>
<td>4 days</td>
<td>Thu 10/24/19</td>
<td>Tue 10/29/19</td>
<td>Team</td>
</tr>
<tr>
<td>3.5 Complete 3 week plans</td>
<td>4 days</td>
<td>Thu 10/24/19</td>
<td>Tue 10/29/19</td>
<td>Team</td>
</tr>
</tbody>
</table>

Figure 1: MSD II Systems Level Build, Test, and Integrate WBS Chart

What do I plan on doing to ensure that my team has a successful review at the end of the next phase?

1. Each team member was assigned specific tasks that he or she will complete. The task breakdown can be seen in Figure 1. The tasks assigned to me, personally, or to the team as a whole, have been listed below.

   3.1 Finalize Testing
   3.1.1 Confirm tests with requirements
   3.1.2 Reevaluate and modify design if needed
   3.2 Create user instruction documents for open source component
   3.2.2 Format link to download software
   3.4 Create Phase Gate Powerpoint
   3.5 Complete 3 week plans

2. When will each task take place? Does sequencing matter?

   - Tasks are to be completed in order. However, if changes are needed, then priorities will be changed to accommodate for the changes. If anything can be done beforehand, it may / may not be done ahead of time as well.
   - A timeline has been provided to show how long tasks should take / when a task is due
3. Amount of time each task will take was estimated. This was to ensure that a team member is not committing to 80 hours of critical-path work alone during the next phase.

3.1 Finalize Testing – 3 days
   3.1.1 Confirm tests with requirements – 3 days
   3.1.2 Reevaluate and modify design if needed – 3 days
3.2 Create user instruction documents for open source component – 9 days
   3.2.2 Format link to download software – 9 days
3.4 Create Phase Gate PowerPoint – 4 days
3.5 Complete 3 week plans – 4 days

4. How do other team member tasks impact my task completion, and vice-versa?

- If a team member is ill and cannot complete his / her tasks, progress on the project is delayed
- If team member’s task is not complete or a team member does not participate in completing a task assigned to them, then progress on the project is delayed
- If a problem during any building / testing phases occur and a problem tracking document is not made, documentation of the problem may not be written / recorded
- If the software is not in a condition to be tested / integrated with the hardware, progress on the project is delayed
- Finalizing decisions with the team needs to go through process of discussion / planning which takes time into completing tasks
- Finalizing documents will take time for teammates to agree on